

## 7.62x39 Trajectory Tables for Kobra Sights

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As standard ammunition tables assume the line-of-sight is 1.5 inches above the line-of-fire, I thought some of you with Kobra sights might find this information useful.

Data supplied by Federal Cartridge Corp. in their 1999 catalog for their 7.62x39 with the following specs:

### 7.62 x 39 mm Federal Am. Eagle 124 gr.

muzzle velocity = 2300 feet per second

average ballistic coefficient from zero to 300 yards = 0.305

Cobra line-of-sight is 3.0 inches above line-of-fire.

Comment: Note that the 50-yard zero and the 150-yard zero are nearly the same trajectory. That is because there is a trajectory with a near-zero around 50 yards and a far-zero around 150 yards.

If you follow conventional wisdom for center-fire rifles and zero at 200 yards, you are no more than plus/minus three inches off target from 0 to more than 200 yards.

It looks as if a good practical strategy is to just zero the damn thing at 50 yards. From 25 to 150 yards, you are then off target by no more than 1.3 inches, and only off 3.1 inches at 200 yards.

One of the illuminating things about studying these sorts of tables is how a very small difference at 25 or 50 yards can translate to a very large difference at 200 yards. For example, compare the 50-yard zero with the 300-yard zero. At 25 yards, the difference is 1.5 inches. At 300 yards, its 12.1 inches.

For 50-yard zero:		For 100-yard zero:		For 150-yard zero:		For 200-yard zero:	
0 yards	-3.0 inches	0 yards	-3.0 inches	0 yards	-3.0 inches	0 yards	-3.0 inches
25	-1.3	25	-1.6	25	-1.3	25	-0.9
50	0.0	50	-0.6	50	-0.1	50	+0.8
75	+0.8	75	0.0	75	+0.7	75	+2.0
100	+1.1	100	0.0	100	+1.0	100	+2.7
150	+0.2	150	-1.5	150	0.0	150	+2.5
200	-3.1	200	-5.4	200	-3.4	200	0.0
300	-18.1	300	-21.6	300	-18.5	300	-13.5

400	-47.1
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400	-51.7
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400	-47.7
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400	-41.0
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So, assuming that one zeroes their weapon at 50 yards, and that one click on the Kobra elevation knob equals approx. 1-1/2" at 100 yards (3-5cm @100m), the following adjustments would be about right:

<b>KOBRA Adjustment Table for 50-yard Zero:</b>		
25	-1.3	<b>No adjustment</b>
50	0.0	<b>No adjustment</b>
75	+0.8	<b>No adjustment</b>
100	+1.1	<b>No adjustment or 1 click clockwise (bring rounds down about 1.5")</b>
150	+0.2	<b>No adjustment</b>
200	-3.1	<b>1 click counter-clockwise from zero to bring rounds up about 3 inches</b>
300	-18.1	<b>3 clicks counter-clockwise from zero to bring rounds up about 18 inches</b>
400	-47.1	<b>4 clicks counter-clockwise to bring rounds up about four feet</b>

So it appears that no substantial adjustments are necessary zeroing at 50 yards until you get out beyond 200 yards. Any input or corrections appreciated.